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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,290	11/08/2001	Philip W. Landfield	50229-286	5114

7590 11/15/2007
McDERMOTT, WILL & EMERY
600 13th Street, N.W.
Washington, DC 20005-3096

EXAMINER

GRAHAM, KRETelia

ART UNIT	PAPER NUMBER
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2827

MAIL DATE	DELIVERY MODE
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11/15/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/986,290	Applicant(s) LANDFIELD ET AL.	
	Examiner Kretelia Graham	Art Unit 2827	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 5,6,9-11,18 and 19 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12 is/are allowed.
- 6) ☒ Claim(s) 1-4,7,8 and 13-16 is/are rejected.
- 7) ☒ Claim(s) 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, filed 8/16/07, with respect to the objection to the claims and rejection of the claims under 35 USC 112 2nd paragraph have been fully considered and are persuasive. The objection/rejection has been withdrawn.
2. Applicant's arguments with respect to claims 1, 12, and 13 have been considered but are moot in view of the new ground(s) of rejection.

Specification

3. The substitute specification filed 8/16/07 has been entered.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-4, 7, 8, and 14 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no description in the

specification to support the claim limitation "as it becomes successively saturated with information" (see claim 1).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 3, 13, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the US patent to Wu (6,845,436 B1), hereafter "Wu".

Pertaining to claim 1, **Fig. 9** discloses: a memory matrix device for storing temporally sequential information **data1-data3** in a manner that retains the sequence of information without dependence on multiple memory addresses, comprising: sequentially-connected arrays of fixed memory units **cell1-cell4**; means **903-905** for applying the temporally sequential information to the array of fixed memory storage units **see column 7, lines 30-33**; and means **G,/G and D,/D** for successively latching and disabling each successive fixed memory storage unit in a sequentially-connected array of said units as it successively becomes saturated with information, thereby directing the next temporal bit of information to the next memory storage unit in said sequentially-connected array **Note: Data is latched in cells 1-4 according to signals G, /G and D, /D. Upon the non-availability of data, signal G is disabled (see Fig.**

11) and the transfer gates 903-905 are disabled and do not transfer data (see column 7, lines 17-44). However, Wu fails to disclose: and is not a serial sequential access memory, a random access memory or a dynamic random access memory. It would have been obvious to one of ordinary skill in the art at the time of the invention to construct cells 1-4 of Wu using any memory device other than DRAM, RAM, or serial sequential access cells since Applicant suggests at page 29, lines 7-18 that any type of cell may be used and the type of cell used (the cells can either be DRAM, latch, register, SRAM, or EEPROM) is not critical to proper memory device operation,

Pertaining to claims 3 and 16, **Fig. 9** is directed towards: wherein the array of fixed memory storage units includes semiconductor memory devices **Note: Master and slave latches in cells 1-4 are devices capable of storing or latching data.**

Pertaining to claim 13, **Fig. 9** is directed towards: a method of storing temporally sequential information **data1-data3** in an array of sequentially-connected fixed memory storage units **cell1-cell4**, comprising the steps of: applying the temporally sequential information to said sequentially connected arrays of fixed memory storage units **see column 7, lines 30-33**; and successively storing bits of temporally sequential information in each of the fixed memory storage units in a sequence based on the order of connection of said fixed memory storage units **Note: Data is latched in cells 1-4 and is transferred through each transfer gate 901-905 (see column 7, lines 17-44).**

Pertaining to claim 15, **Fig. 9** is directed towards: wherein the step of applying includes the step of applying the temporally sequential information to the arrays of fixed memory storage units in parallel lines or waves **see column 8, lines 33-41.**

Allowable Subject Matter

8. Claim 17 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record considered pertinent to the Applicant's disclosure, whether taken individually or in combination, does not teach or suggest: the signal generator reading the array in the same invariant order as writing to the array (**see claim 17**).

9. Claim 12 is allowed. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record considered pertinent to the Applicant's disclosure, whether taken individually or in combination, does not teach or suggest: means for generating signals transmitted through vertical arrays connecting multiple parallel sequentially connected arrays (horizontal arrays), to allow simultaneous signal application to temporally corresponding fixed memory storage units and consequent reading of information originating at the same point in time in different parallel horizontal arrays.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kretelia Graham whose telephone number is (571) 272-5055. The examiner can normally be reached on Mon-Fri 8am-4:30 pm.

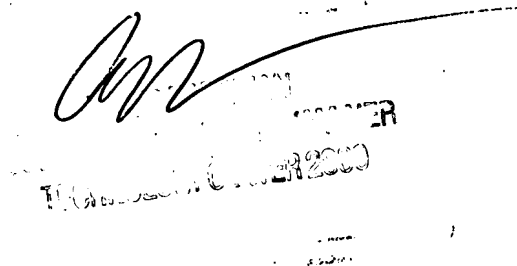
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on (571) 272-1852. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KGc



A handwritten signature in black ink is written over a rectangular official stamp. The stamp contains the text "EXAMINER" and "09/986,290" in a bold, sans-serif font. The signature is a stylized, cursive-like mark.



Clean Substitute Specification

**METHOD FOR STORING AND RETRIEVING SEQUENTIAL
INFORMATION**

CONTINUING DATA

5 The present application is a continuation-in-part of U.S. Application Serial
No. 09/628,556, filed July 28, 2000, and claims the benefit of priority to U.S.
Provisional application numbers 60/146,143, filed July 30, 1999, 60/157,859,
filed October 6, 1999, and 60/187,171, filed March 2, 2000. The contents of these
provisional applications are incorporated herein by reference in their entirety.

10

BACKGROUND OF THE INVENTION

FIELD OF THE INVENTION

15 The present invention is based primarily on a neuroholographic model of
how the brain stores and retrieves memories and relates to methods deriving
therefrom for storing and retrieving temporal information, and applications
thereof, including electronic, optical, magnetic and neural network devices that
use the method of distributing temporal information into spatially ordered arrays
including methods for detecting the efficacy of drugs, toxic substances or
20 treatments on human memory and other cognitive processes, and the use of such
detection for drug treatment or development.

BACKGROUND AND BRIEF DESCRIPTION OF THE RELATED ART

25 The invention is based on a new model of brain mechanisms in temporal
memory storage and retrieval that derives from principles of brain anatomy and
studies of brain electrophysiology. This new model follows loosely from a prior